ETHNICITY AND ACCULTURATION AS MODERATORS OF THE RELATIONSHIP BETWEEN MEDIA EXPOSURE, AWARENESS, AND THIN-IDEAL INTERNALIZATION IN AFRICAN AMERICAN WOMEN

A Dissertation

by

KEISHA DENYTHIA HENRY

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2005

Major Subject: Psychology

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Approved by:

Chair of Committee,	Antonio Cepeda-Benito
Committee Members,	David H. Gleaves
	Mary M. Meagher
	Linda G. Castillo
Head of Department,	W. Steve Rholes

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ABSTRACT

Ethnicity and Acculturation as Moderators of the Relationship Between Media Exposure, Awareness, and Thin-Ideal Internalization in African American Women.

(August 2005)

Keisha Denythia Henry, B.S., Texas A&M University;

M.S., Texas A&M University

Chair of Advisory Committee: Dr. Antonio Cepeda-Benito

The moderating effects of ethnicity and acculturation on three relationships: media exposure and awareness of sociocultural appearance norms, awareness of social ideals and thin-ideal internalization, and thin-ideal internalization and body dissatisfaction were examined. European American students and African American participants from both predominantly White and historically Black colleges and universities completed measures of media exposure, awareness of socicultural attitudes towards appearance, internalization of appearance norms, body dissatisfaction, and acculturation. The LISREL 8.5 program was used to perform structural modeling analysis using the Satorra-Bentler scaled chi-square and associated robust standard errors to test the relationship between ethnic groups. The results support previous findings regarding the mediational effect of internalization on the relationship between awareness and body dissatisfaction, and also provided evidence for the relationship between media exposure and awareness of sociocultural norms. The relationship between media exposure and awareness, and awareness and internalization were similar

for both groups, while relationship between internalization and body dissatisfaction was stronger for European American women than for African American women. These results indicate ethnicity may serve to protect some women against the development of eating disorder symptoms, as well as the role of acculturation as a moderator between media exposure and awareness and between internalization and body dissatisfaction in African American women.

DEDICATION

For my family.

ACKNOWLEDGEMENTS

I would like to thank my dissertation committee, Dr. Antonio Cepeda-Benito, Dr. David Gleaves, Dr. Mary Meagher, and Dr. Linda Castillo for their invaluable guidance throughout this project. Additionally, I wish to express my gratitude to the following individuals at Texas A&M University: Rebecca Binder, Pat Nies, Valarie Walker, Dr. Brian K. Williams, Dr. Katherine Wickes, Dr. Ludy Benjamin, Dr. Emily Davidson, Dr. Paul Wellman, Dr. Brian Stagner, Leviathan Wynn, Cortney Warren, Joe Gabriel, and Mayra Barrios. This project would have been impossible without the generous assistance of the Psychology Department at Prairie View A&M University: Dr. Paula Moore, Dr. M. Denise Lovett, Dr. Veda Brown, Dr. Peter Metofe, and Marcia Shelton., and my mentors at Wilford Hall Medical Center in San Antonio, TX: Lt. Col. (Dr.) Robert Seegmiller, Lt. Col. (Dr.) Ken Dobbins, and Lt. Col. (Dr.) Thomas Zazeckis. I am also thankful for the support of several dear friends who were always available as consultants to share their expertise, or, more frequently, their much-needed emotional support: Dr. Michelle Fingeret, Dr. Randolph Arnau, Capt. (Dr.) Latonia Roach, Dr. Jarrad Prasifka, Capt. (Dr.) Carol R. Fowler, Capt. (Dr.) Theresa Hughes, Capt. (Dr.) Derek Muñoz, Capt. (Dr.) Aaron Irvin, Laura Hemmy, Sonia Amin Tran, Joseph Ureño, Edward Wickes, Alton Walton, Charity Walton, and Kirk Franzen.

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INTRODUCTION

Eating disorders are among the most challenging of medical and psychiatric problems. Prevalence rates of anorexia nervosa (AN) and bulimia nervosa (BN) have increased dramatically among high school and college students, and have reached epidemic proportions in Western society (Shisslak, Crago, Neal, & Swain, 1987). The lifetime prevalence of AN is between 0.5 and 1% in the general population, while the rates of BN are reported to occur in approximately 1 to 3% of the population (APA, 1994). Between 5 to 10% of the population meet the criteria for binge eating disorder (BED). Eating disorders are often comorbid with other psychological and physical health problems (Kalodner, 1998), and are responsible for one of the highest known mortality rates among psychiatric disorders (APA, 1994). The high incidence of eating disorders is attributed often to the high value of thinness in Western society. Pressure to be thin from family members, peers, and the media contribute to an internalization of the thin ideal and an overvaluation of the significance of appearance (Stice, 2002). In Western society, thinness is assumed to indicate positive attributes, such as youth, efficacy, and self-control (Shisslak, Crago, Neal, & Swain, 1987).

Eating disorders have been historically viewed as diseases affecting primarily White, upper class young women. The paucity of empirical research investigating eating disorders in women from other ethnic minority groups, as well as the noted absence of African American women in treatment (e.g., Becker, Franks, Speck, & Hertzog,

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2003;Holden & Robinson, 1988) may reflect the belief that African Americans are not as at risk for developing eating disorders. Clinical and professional lore has attributed differential rates of eating disorders between White and non-White women to parallel differences in ideals of beauty and achievement orientating values (Davis & Yager, 1992). However, more research findings suggest that the prevalence rates among ethnic minority groups may be higher than previously estimated (Gard & Freeman, 1995; Pumariega, Gustavson, Gustavson, Motes, & Ayers, 1994).

Quantitative Studies

Davis and Yager (1992) reviewed studies addressing AN and BN among ethnic groups. They found quantitative studies involving both clinical and non-clinical populations. Among the published clinical studies investigating eating disorders in non-White patients all were non-U.S. studies conducted with Asian populations. Among the studies conducted with non-clinical populations, only a small number of them examined eating disorders in African Americans or compared eating disorders among U.S. ethnic groups. With regards to African Americans in particular, one study found that BN was equally present in African American (n = 5) and European American (n = 7) high school students when using BN nervosa in European Americans (13%) than African-Americans (3%), using Russell's (Gray, Ford, & Kelly, 1987) criteria (Davis & Yager, 1992).

Subsequent studies have continued to report mixed findings. Some authors have reported that African American women have higher body esteem and are less concerned about weight loss than European American or Hispanic American women (e.g., Abrams, Allen, & Gray, 1993; Henriques, Calhoun & Cann, 1996; Rhea, 2000; Stevens,

Kumanyika, & Keil, 1994; Wilfley, et al., 1996), whereas other studies have indicated an absence of differences on levels of disordered eating and drive for thinness between African Americans and European Americans. (Cachelin, Rebeck, Veisel, & Striegel-Moore, 2001; Dacosta and Wilson, 1996; Lester & Petrie, 1998; Pumariega, et al., 1994). Moreover, Striegel-Moore, Schreiber, Pike, and Rodin (1995) found African American adolescents scored higher on the EAT and reported greater drive for thinness than European American girls. Although the aforementioned studies varied in their findings, most authors acknowledged that acculturation played an important role in the development and presentation of eating disorders (Abrams, *et al.,* 1993; Cachelin, et al., 2001; Pumariega, et al., 1994). Cachelin et al., (2001) noted that more the acculturated individuals were to western values the more likely they were to have an eating disorder, and among those with eating disorders, the less acculturated individuals were, the less likely they were to receive treatment.

Wildes, Emery and Simmons (2001) performed a meta-analysis to quantitatively examine the relationship between ethnicity, culture, and eating disorders. Results from the between-studies comparisons indicated the effect sizes were largest when studies compared Black and White groups. The effect sizes for these samples were all positive and statistically significant, indicating in Whites more symptoms of eating pathology and body dissatisfaction than in Black groups. The mean effects reported for dietary restraint, body dissatisfaction, smaller ideal body, and lower reported weight indicated moderate to very large differences between Whites and Blacks. However, contrary to previous research, Wildes at al. (2001) found that across all studies and outcome

measures, there was no relationship between acculturation and eating pathology.

Wildes, et al. (2001) found support for the belief that substantial differences exist between Whites and non-Whites in reported eating disturbance, however their results should be interpreted with caution. For example, Wildes, et al. (2001) did not separate the scores of women and men, or of Black Africans and African Amercans (O'Neal, 2003). Wildes, et al (2001) also commented that acculturation literature offered little to no insight into the effects of Western and White culture on nonwhite women's reported eating disturbance because too few studies (11 out of 35) reported the relationship between acculturation and eating pathology for the mean effects to offer conclusive findings.

O'Neal (2003) performed a meta-analysis to determine the extent and variety of differences in eating disturbance rates between European American and African American women. Results from a comparison of 18 empirical studies revealed a small but statistically significant effect size indicating that African-American women scored lower on eating disturbances than European American women. Among those with a high with a drive for thinness, African-American women had significantly lower rates of eating disturbances than their European American counterparts. However, African-American women were not significantly different in their rates of bulimia or in rates of binge eating disorder. These authors also reported significant effect size heterogeneity, indicating that average effect sizes cannot describe the data adequately. O'Neal (2003) suggested that significant moderators may have affected the relationship between eating disturbances and ethnicity.

How Does Culture Contribute to the Development of Eating Disorders?

The higher prevalence of eating disorders in Western societies, and their emergence along with the introduction of "Westernized" values in less developed countries lends support to the classification of AN and BN as "culture-bound syndromes" (Attie & Brooks-Gunn, 1995; Crago, Shisslak & Estes, 1996; Weiss, 1995). A culture-bound syndrome is a collection of signs and symptoms characteristic of a disease that is not found universally but is instead restricted to certain cultures (DiNicola, 1990; Iancu, 1994; Reitenbaugh, 1982). According to this hypothesis, certain disorders are caused by distinctive psychosocial features associated with a particular culture and cannot be understood apart from its cultural context. In the case of AN and BN, the cultural value of thinness is the main cause or origin of eating disorders (Vendereycken, 1993).

Some theorists argue eating disorders have increased largely as a result of cultural trends in society that set thinness as a standard of beauty, power, and status for women (Terrell, 1996). Prior to the Industrial Revolution, female fatness was associated with fertility, and in general, larger bodies were associated with prosperity. The social and economic changes associated with industrialization, secularization, and class stratification resulted in smaller families in Western Europe. By the beginning of the 20th century the first signs of weight-consciousness in upper class women could be observed in two forms. The new liberated woman's thin body represented athleticism, non-reproductive sexuality and androgynous independence (Vandereycken, 1993). At the same time, adolescent and adult women were admired for their fragility and suffering,

qualities that came to symbolize femininity, spirituality, and high social breeding. By the turn of the 20th Century, slimness came to symbolize asexuality and gentility, both of which implied social distance from the working classes (Attie & Brooks-Gunn, 1995; Wright, 2000). The higher levels of education and standard of living achieved by working classes during modern times have also been accompanied by heightened awareness of body shape and body size (Lambley & Scott, 1988).

In cultures of more affluent western countries, increased thinness has become the cultural ideal of body shape. Conversely, in countries where food is scarce, heavy bodies symbolize wealth and health. Given that AN and BN are virtually nonexistent in very poor countries, it can be deduced that wealth facilitates the development of eating disorders. This theory may explain, in part, why African American women, few of whom are affluent, may value heavier weights as their ideal (Flynn, et al., 1996; Wright, 2000).

Accepting the belief that eating disorders are culturally bound would provide some explanation to the increasing rate of eating disorders worldwide, as well as among some minority groups in the United States (Crago, 1996). Many non-Western countries are presently undergoing rapid social and economic change, with the development of a consumer-oriented economy and its accompanying advertising industry. Media are believed to be among the strongest proponents of cultural messages of body size, and are considered highly influential in the promotion of attitudes about body and self, particularly during adolescence—a developmental period during which external influences contribute heavily to identity formation (Becker & Hamburg, 1996; Botta,

2000; Miller & Pumariega, 2001; Posovac, Posovac, & Weigel, 2001). The images promoted by the media are typically distorted versions of reality. Models and celebrities are portrayed either exceptionally thin (i.e., at the low tail-end of the normal distribution of body weight) or unnaturally thin (i.e., the products of exertions to achieve and maintain a slim physique) (Polivy & Herman, 2002). For example, researchers have noted that Miss America pageant contestants and winners, as well as Playboy magazine centerfolds, have become increasingly thinner since 1959 (Garner, Garfinkel, Schwartz, & Thompson, 1980; Wiseman, Gray, Mosimann, & Ahrens, 1996). Rohwer and Massey-Stokes (2001) noted that television programs rarely include children or adults who are large or overweight. Further, the authors noted, many public figures who are overweight have experienced scathing media critiques of their weight or have undergone highly publicized weight-loss campaigns. According to the National Center for Health Statistics (1997), the average American woman is about 5'4" tall and weights 152 pounds. However, Caucasian teenage girls have described their "ideal girl" as 5'7" tall, weighting 110 pounds and wearing a size 5 (Nichter & Nichter, 1991). The rise in eating disorders in recent decades has occurred simultaneously with media portrayal of decreased body weight for women and increases in the advertisement of weight-loss products in women's magazines (Stice, Schupak-Neuberg, Shaw, & Stein, 1994). Americans are exposed to approximately 3,000 advertisements daily through various forms of media (Roberts, et al., 1999). The "ideal girl" is consistently represented in practically every aspect of Western culture, including department stores that proudly boast of "size zero" clothing from their window fronts.

The Sociocultural Model of Eating Disorders

The premise of the sociocultural model of eating disorders is that various social and cultural attitudes contribute to the development and proliferation of eating disorders. Specifically, the norms and values of Western society regarding the roles appearance of women are believed to contribute to eating pathology (Striegel-Moore & Smolak, 2000). For example, bulimia requires certain features of contemporary Western culture, including personal freedom, an emphasis on instant gratification, the availability of food at any time, a desocialized eating environment, lack of supervision, and the cultural ideal of diet and exercise for weight loss (Attie & Brooks-Gunn, 1995). In Western culture, thinness is associated with attractiveness and femininity (Shisslak, Crago, Neal & Swain, 1987). Western society also values discipline and self-control, two values that can be over-emphasized and apparent by a thin physique (Wright, 2000). In social and work contexts, thinness connotes youth, efficacy, and self-control whereas fatness is seen as shameful or even sinful (Lee, 1996). Thus, pressure from family, peers, and media are believed to contribute to an internalization of the thin ideal and an overvaluation of the importance of physical appearance, which may lead to dieting, negative affect, and eating pathology (Stice, 2002).

Evidence of the influence of Western society in the promotion of AN and BN symptoms is supported by the combination of the following two findings. Stice and Shaw (1994) found that when female undergraduates were exposed to the ultra-thin models in magazines, the women reported heightened feelings of depression, shame, guilt, and stress, and also led to decreased levels of confidence compared to exposure to

average-sized models or no models. In sharp contrast, Platte, Zelten, and Stunkard (2000) measured body image in a population of Old Order Amish, a Protestant religious community that consciously removes itself from Western industrialized society. Platte, et al., (2000) found that young Amish people do not show the body image problems characteristic of young persons in Western industrial society.

Economic forces, mass-media, and technological advances have created a situation in which the Western "ideal" of body shape and size can be rapidly and widely disseminated around the world and across social class strata and ethnic groups (Empa & Thomas, 2000). The impact of these messages is further enhanced for minority groups as people of color increase their presence in television, film, and advertisements that directly or indirectly convey that thinness is desirable and fatness should be avoided. Among the most affluent members of society in developing nations, there is a widespread adoption of the "western styles," habits, attitudes, and values of slenderness as an expression of sexual attraction and prestige. In this context we can expect to find increasing incidence of eating disorders (Munford, 1993; Vandereycken, 1993).

Ultimately, as non-Western societies and even ethnic minorities in the United States obtain increasing access to majority cultural values through economic gain, globalization, or education, their attainment may lead to greater sociocultural pressures toward thinness among these groups (le Grange, Stone & Brownell, 1998). There are also theoretical consequences to endorsing the Culture-Bound Hypothesis and Sociocultural Hypothesis of eating disorders. Swartz (1985) argues that an essential feature of a culture-bound syndrome is that it cannot be understood apart from its

specific cultural or subcultural context. Culture is not a fixed construct, but rather a malleable one that is constantly changing. The meaning of eating disorders may change as cultural preoccupations also change. For example, within Western culture we may find that, in image-related careers such as modeling, gymnastics, or ballet, some of the symptoms of eating disorders (such as preoccupation with body weight and shape) are somewhat normal.

Comparison theories are beneficial in understanding how the media can impact women's body image (Posovac, et al., 2001). Stice, et al. (1994) argue that repeated exposure to the thin ideal portrayed in the media causes women to internalize the thin-ideal stereotype. Thin ideal internalization refers to the extent that a person "buys into" socially defined ideals of attractiveness and thus engages in behaviors intended to produce an approximation of these ideals (Thompson & Stice, 2001). When women compare themselves with media images of the ideal for female attractiveness, the perceived discrepancy between their actual body shape and the media's ideal will lead them to become dissatisfied with their bodies (Posovac, et al, 2001). Thin-ideal internalization may also promote dieting in the absence of body dissatisfaction because people may want to pursue a culturally valued body shape to gain social approval (Stice, 2002). Several studies support these arguments. Increased reading of health and fitness magazines or brief exposure to music videos containing thin and attractive images of women were related to increases in anorexic behaviors, bulimic behaviors, and drive for thinness in adolescent and college-aged females (Botta, 2003; Tiggeman & Slater,

2003). Further, Vaughan and Fouts (2003) observed that changes in normal media use were associated with changes in eating disorder symptomatolgy.

The thin ideal appears to be endorsed by large segments of society despite being virtually unattainable. Approximately 5% of women have the body build required to be a fashion model (Jhally, 2000), and only 1 in 40, 000 women meets the approximate height, weight, and shape requirements to be a fashion model (Wolf, 1991). Stice and Agras (1998) found that thin-ideal internalization predicted the onset of bulimic symptoms in a community sample of adolescent girls. Additionally, Stice, Spangler, and Agras (2001) found that prolonged exposure (15-month period) to thin-ideal images resulted in increased negative affect for adolescents reporting initial elevations in body dissatisfaction and pressure to be thin increased body dissatisfaction, dieting, and bulimic symptoms for adolescents reporting deficits in social support. The negative influence of the media appears to be strongest for women who posess a pre-existing vulnerability of some type (e.g., drive for thinness, body dissatisfaction) (Irving, 2001; Twamley & Davis, 2003).

Does Ethnicity Protect Some Women Against Eating Disorders?

Numerous studies support the belief that compared to other female groups, European American women are at an increased risk for eating disorders. The earliest descriptions of anorexia nervosa were based on European girls and women, and early theoretical models emphasized both the Western and bourgeois context of the disorder. Moreover, the majority of cross-cultural studies have found significantly greater prevalence rates of AN and BN in Western cultures than in non-Western cultures

(Striegel-Moore & Smolak, 2000). Eating disorders continue to be most prevalent among White girls (Rohwer & Massey-Stokes, 2001). Several studies have found differences between African American and European American women on measures of body dissatisfaction, fear of fatness, and social pressure about appearance (Striegel-Moore & Smolak, 2000).

Most of the research investigating risk factors for eating disorders has focused on the importance of gender roles, attitudes toward body size, styles of coping and responding to trauma, and degree of assimilation into the dominant culture (Davis, Clance & Gailis, 1999; Henriques & Calhoun, 1999). A core assumption of this line of research has been that African American women should be at comparatively lower risk (than European American females) for developing poor body images and disordered eating behaviors related to the quest for a thinner body. Such beliefs originate from previous research suggesting that for African American women, their respective roles are less focused on body shape and weight concerns (Lovejoy, 2001; Rohwer & Massey-Stokes, 2001; Striegel-Moore & Smolak, 2000).

Overall, African Americans tend to have a more weight-tolerant attitude than European Americans (Greenberg & LaPorte, 1996), a pattern that has been consistently demonstrated across both gender (Demarest and Allen, 2000) and age (Stevens, Kumanyika & Krill, 1994). Although African Americans are generally heavier than European Americans, they tend to report less body dissatisfaction, fewer weight concerns, more positive self-images, and perceive their bodies to be thinner than European Americans (Altabe, 1998; Bagley, Character, & Shelton, 2003; Botta, 2003;

Crago, Shisslak & Estes, 1996; Miller, et al., 2000; Perez & Joiner, 2003; Thompson, Rafiroiu, & Sargeant, 2003). African Americans are less likely to think being overweight is a problem, and among women who are not overweight, dieting is less common in African-Americans than in European Americans (Stevens, Kumanyika & Krill, 1994).

Given that equating thinness with beauty is a characteristic of the dominant (European American) culture, African-American women who do not identify with the dominant culture should not face pressure to value slimness and may find it easier to reject the thinness ideal (Dolan, Lacey & Evans, 1990; Osvold & Sodowsky, 1993). Congruent with this hypothesis, researchers have found that African-American students are at greater risk of developing an eating disorder if they attend predominantly White colleges, as opposed to historically Black colleges and universities (Mulholland & Mintz, 2001; Thompson, 1994).

Crago et al (1996) noted that for African American girls, "looking good" is associated with a certain self image and personal style. African American females do not typically judge their self worth by the same standard as European American girls, thus, pride in one's body may happen regardless of physical appearance through emphasis on grooming (Maresh & Willard, 1996; Rohwer & Massey-Stokes, 2001; Smith, Thompson, Raczynski, & Hilner, 1999). For example, Smith, et al. (1999) found that African Americans reported greater investment in their appearance and tended to be more satisfied with their appearance than European Americans. The authors also note their findings controlled for the influences of obesity, age, and education. Other researchers concluded that African American women subscribe to a multifaceted

definition of beauty that promoted personal style, self-care, and spirituality over body control and manipulation (Ruben, Fitts, & Becker, 2003; Smith, et al, 1999)

Nonetheless, as more social, educational, and professional opportunities become available to African American women, they will also become more affluent and immersed into mainstream Western society. Hsu (1987) suggested that increases in affluence for African Americans would be accompanied by more access to traditional European-American values. Adopting these values increases the likelihood of a homogenization of lifestyles and priorities. Research has found that when African American women adopt more of the values of the predominant European American culture, they report greater pressures to diet and exhibit more problematic eating behavior (Henriques, Calhoun, & Cann, 1996). Thus, eating disorders appear higher among African American women who are younger, better educated, heavier, and acculturated (Crago, et al., 1996).

Eating Disorders as a Culture-Change Syndrome

In recent years, the claim that eating disorders are culture-bound to Western Europe and North America has been challenged as a valid view, due to increasing number of reports from several non-westernized countries (Famuyiwa, 1988; Gunewardene, Huon & Zheng, 2001; Lee, 1995). Some research findings have demonstrated that preoccupation with eating is now widely distributed across sex, race and SES (le Grange, Tibbs & Seibowitz, 1995; Schmolling, 1988).

Stress from acculturation is considered a key factor in triggering eating disorders in non-western individuals. Many ethnic groups hold values concerning body size that

differ from those of mainstream culture. To assimilate into a culture different from one's family, especially for young women of ethnoculturally diverse backgrounds, may place undue stress on an adolescent, which might increase the risk of unhealthy coping mechanisms (Gowen, et al., 1999; Terrell, 1996). Additionally, second-and third-generation individuals may experience stress because of the disparity between the values in their home and those of the dominant culture (Padilla, et al., 1985).

Several researchers have demonstrated that separation from one's primary ethnoculture correlates with eating disorder symptoms. This relationship may represent an identity confusion resulting from a clash in values between the culture of origin and the host culture (Harris & Kuba, 1997; Holden & Robinson, 1988). Coping with these clashes among the cultural values of one's own ethnic group, those of one's own gender, and those of mainstream culture creates a heightened vulnerability in these young women as they face the task of achieving a positive identity (Harris & Kuba, 1997; Terrell, 1996). Harris and Kuba (1997) also suggest eating disorders may be symptomatic of conflicting cultural demands for beauty and acceptance. Suppressing these demands through internalized oppression may result in disordered eating symptoms.

Racial features, foods, rituals and manners of ethnic minorities are often devalued or rejected by the dominant group. Because women's values in mainstream society have been assessed by appearance, many ethnic minority females, particularly in the context of upward mobility, may try to fulfill the European American standards of beauty that are equated with success, power, acceptance and self-esteem (Root, 1990).

An attempt to "fit in" with mainstream American culture may lead ethnic minority females to repudiate their own culture's beauty ideals and adopt European American standards of thinness and dieting as normative behavior (Striegel-Moore & Smolak, 2000). For example, having different skin and hair types than those that are accepted as attractive by western society may motivate ethnic women to adapt a thinner physique. One woman was quoted as saying that if she could not changer her skin color, then she could at least be thin (Thompson, 1992). Ultimately, a key to understanding eating disorders among ethnic minority females is found in the interaction between ethnocultural identity confusion and conflicts in cultural concepts of beauty and attractiveness (Harris & Kuba, 1997).

Do Eating Disorders Look Different in African Americans?

It is possible eating disorders may be present in a particular non-western culture in a different form and with different characteristics than seen in Western culture (Mumford, 1993). For example, in the U.S. the prevalence of obesity in African Americans is nearly twice that of European women, and obesity-related mortality rates due to cardiovascular disease, stroke, and diabetes are also higher among African American women (Flynn & Fitzgibbon, 1996; Stevens, Kumanyika & Krill, 1994).

Differences in weight loss practices (e.g. bulimic behaviors rather than dieting by food avoidance) and the tendency for African American women to diet when they are above optimal weight rather than at optimal weight also suggest that African Americans may present with eating problems differently that European Americans (Chandler, et al., 1994). Further, epidemiological studies of eating behaviors and weight concerns (e.g.,

obesity, binge eating) reveal that females, African Americans, and individuals in the middle and lower SES percentiles tend to exhibit these problems at a higher rate (Davis, Clance & Gailis, 1999; Empa & Thomas, 2000).

In conclusion, taking both the culture-bound hypothesis as well as research (e.g., Johnson, et al., 2003; Perez,, et al., 2002; Telch & Agras, 1994) noting significant correlations between binge eating/overweight and indexes of psychological distress (e.g., depression, interpersonal difficulties, and self-esteem) into consideration, we can assume the ethnic minority women most at risk for developing AN or BN appear to be those who are from upper-middle class, achievement-oriented backgrounds who are trying to be accepted into the dominant culture, whereas members of acculturating groups caught between two different sets of cultural values seem to be most at risk for developing BED or EDNOS (Attie & Brooks-Gunn, 1995; Wassenaar, et al., 2000).

Limitations of Previous Research with African Americans

The majority of eating disorder research is based on samples of young-adult, European American females, and continues to have profound implications for the theoretical formulations of eating disorders (le Grange, Stone & Brownell, 1998; Mulholland & Mintz, 2001). Most current theoretical models describe risk as deriving from multiple domains, including personal vulnerability factors (i.e., biological and personality variables), familial factors and culture, but rarely include a specific consideration of acculturation to either the culture of origin or the host culture. Instead, studies have compared ethnic minority groups to White groups on measures of eating pathology and vaguely implied that acculturation may somehow contribute to the results.

Implicit in these comparisons is the assumption that differences between African Americans and European Americans are due to differences between the ethnic groups and the dominant culture. Relatively few studies have explored the mechanisms by which acculturation, ethnic identity, and discrimination affect the prevalence rates, symptoms, expression, clinical course, or treatment of eating disorders.

Methodological Issues

Many investigators only looked at White/non-White comparisons of differences in eating disorder research (Altabe, 1998), and often lacked sufficient numbers of participants in each individual ethnic group to permit meaningful between-group comparisons (ex: Hermes & Keel, 2003). Other methods of data collection such as self-report surveys are also problematic due to varying rates of return, and potential concerns of reliability/validity, and generalizability from student samples to other populations including more representative proportions of ethnic minority groups (Dolan, 1991; Gowen et al, 1999; Rhea, 1999). In fact, Wildes, et al. (2001) and O'Neal (2003) noted that studies that used college samples to compare eating pathology in Blacks and Whites revealed greater effect sizes than studies using other types of samples.

To date, few existing instruments assessing eating disorder pathology have been validated with ethnic minority women; thus, it is not known whether the current diagnostic tools generalize to ethnic minority groups living in the United States and do not take into account religious, cultural, and beauty practices of non-westernized individuals (Wildes, et al., 2001). Measures of body dissatisfaction often omit parts that may be salient for racial/ethnic minority groups, such as skin color or hair texture

(Miller, et al., 2001). These physical features are often the first characteristics by which many ethnic minority women began to feel devalued or different from mainstream Western culture.

There has been little consistency in the methods used to measure acculturation or ethnic identity. Despite a wide consensus that acculturation is an important component of cross-cultural psychology, there is disagreement with how to best conceptualize and measure it (Berry, 2003). Most acculturation models are based on immigrants, and assess variables such as length of residence in the United States, parental countries of origin, or bilingual abilities. Additionally, most models assume that adaptation occurs along a bipolar continuum (i.e., one may move from traditional to acculturated) as opposed to within a multidimensional context. This assumption is problematic for U.S.-born ethnic minority groups, many of whom are born into bicultural or acculturated environments (Landrine & Klonoff, 1996; Zane & Mak, 2003). Many researchers investigating the relationship between acculturation and eating disorders used measures of ethnic identification that were designed to assess identity in a particular group, and thus were not administered to all participants or used unspecified items (e.g., Pumariega, Gustavson, Gustavson, Motes & Ayers., 1994).

Goals of the Study

The first goal of the study was twofold. There was an interest in examining eating disorder symptomatology as a function of ethnicity (European American vs African American groups). However, there was also a need to explore how context may influence eating disorder symptomatology among African American women attending

college. Thus, the study compared self-reported eating disorder symptomatology across three groups, a sample of European American students and two samples of African American students, those attending predominately white and black universities, respectively.

Second, the hypothesis that being African American is a protective factor against the internalization of current, thin-deal standards was tested. This hypothesis was embedded within the larger theory that predicts that media exposure influences awareness of society's thin-ideal standards, which in turn will influence internalization or adoption of the ideals, which in turn should increase eating disorder psychopathology. This model was tested separately for all the participants combined within a single sample and for European American and African American participants, separately. Additionally, I tested whether or not identification with African American culture (the African American Acculturation Scare-Revised; Landrine & Klonoff, 2000) would function as an additional protective factor among African American participants.

Assuming the data fit the model, there are several potential outcomes. Lack of differences in the over fit of the model would indicate that the model is theoretically robust and would support the notion that society's emphasis on thinness as the ideal of beauty for women is a first link in the chain of causal events that lead to eating disordered behavior, with awareness and internalization of the thin ideal and sequential mediators of the media exposure effect. Evidence of moderation would be apparent by the presence any differential mediational effects either from media exposure to thin-ideal awareness, or from thin-ideal awareness to thin-ideal internalization, or from thin-ideal

internalization to eating disorder symptomatology. If being African American were a protective factor for the indirect influence of media exposure on the development of eating disorder symptomatology, one would expect that either one or more of these three mediational paths would be weaker in African American than European American women. Similarly, among African American participants, one would also expect to find one or more of the three mediational paths to be weaker among those participants reporting higher acculturation scores than those reporting lower acculturation scores.

METHOD

Participants

African American (*n* = 161) and European American (*n* = 285) women attending large universities in the Southern and Southwestern United States participated in this study. Participants were divided into ethnic groups based on their self-identified ethnicity. African American participants were then divided into two groups: those who attended a Historically Black College or University (HBCU) and those who attended a Predominantly White College or University (PWCU).

All European American participants and approximately 85% of the African American HBCU participants were from undergraduate psychology courses, whereas most African American PWCU participants were recruited primarily from various student organizations (e.g., predominantly African American sororities) and campus-sponsored events. Participants recruited from psychology courses received research credit in exchange for participation whereas those recruited from student organizations and campus events participated entered a lottery to win one of three fifty-dollar cash prizes.

Materials

Media Influence. The Multidimensional Media Exposure Scale (MMIS: Thompson & van den Berg, 2002) is a 30-item measure designed to assess media influences. The scale consists of three factors: Information, Pressures, and Internalization. Within the internalization dimension are two distinct scales that focus on internalization of general attractiveness and messages of athletic or physical fitness.

Awareness of Sociocultural Attitudes Toward Appearance. The Sociocultural Attitudes Toward Appearance Questionnaire-Awareness subscale (SATAQA; Heinberg, Thompson, & Stormer, 1995) is an 11-item questionnaire designed to measure acknowledgement of socially and culturally endorsed standards in appearance. The Societal Emphasis on Appearance Scale (SEA; Fingeret & Gleaves, 2002) is a 12-item questionnaire designed to measure knowledge of the importance of attractiveness for women in today's society and the perceived sociocultural link between attractiveness and success for women. To date, no normative study utilizing the SEA has been reported for African American college students.

Body Dissatisfaction. The Body Image Assessment (BIA: Williamson, Davis, Bennet, Gorecyny, 1989) is a method that assesses body image by using nine silhouettes that range from very thin to very large. Ratings for current body size and ideal body size are used to calculate a discrepancy score, which indicates the degree of body dissatisfaction. Although the BIA has been used in previous studies with diverse ethnic populations (e.g., Miller, et al., 2000), no normative data with African Americans were available at the time of the present study. The Body Shape Questionnaire (BSQ: Cooper, Taylor, Cooper & Fairburn, 1987) is a 34-item questionnaire that assesses concerns with body shape. The Body Esteem Scale-Weight Concern subscale (BESWC: Slade, Dewey, Newton, Brodie & Kiemle, 1990) consists of 10 items measuring satisfaction or dissatisfaction with eight body parts. Scores on the BES have been shown to be reliable and valid for assessing awareness of and feelings about the body and bodily experiences of African Americans (Thomas and Freeman, 1990).

Internalization of Sociocultural Appearance Standards. The SATAQ-Internalization subscale (SATAQI; Heinberg, et al., 1995) contains 10 items that assess acceptance of societal standards of appearance. To date, few studies have evaluated the psychometric properties of the SATAQ. Cashel et al. (2003) demonstrated construct validity using SATAQ-I, noting it was strongest for Caucasian women. The Multidimensional Body Self-Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990) Appearance Orientation Scale is consists of nine items measuring cognitive-behavioral attention to appearance-related issues to an indicator of a person's investment in physical appearance as well as the importance of physical appearance to that person.. The Appearance Schemas Inventory (ASI: Cash & Lebarge, 1996) is a 14-item measure that assesses assumptions and beliefs about the importance, meaning, and effects of appearance in one's life. To date, no normative studies utilizing the MBSRQ or ASI have been reported for African American college students

Eating Disorder Symptomatology The Eating Attitudes Test (Garner, Olmstead, Borh, & Garfinkel) is a 26-item instrument designed to measure symptoms and concerns characteristic of eating disorders. The Bulimia Test-Revised is a 28-item questionnaire designed to differentiate between clinical and non-clinical levels of bulimic symptoms.

Acculturation. The African American Acculturation Scale-Revised (AAASR: Landrine & Klonoff, 2000) consists of 47 items that assess a variety of aspects of African American culture: religious beliefs and practices, preferences for things African American, interracial attitudes, family practices, health beliefs and practices, cultural superstition, racial segregation, and family values.

A demographic questionnaire asked questions regarding one's self-identified age, ethnicity, years or education, and background. After giving informed consent, all questionnaires were administered in group format and were presented in random order to reduce order effects.

Data Analysis

Analyses were conducted using the Statistics Package for the Social Sciences (SPSS for Windows Version 12.0.1, 2004) and LISREL 8.5 (Jöreskog & Sörbom, 2001). Differences between the three groups were tested using univartiate ANOVAS. The relationship between the Media exposure, Awareness, Internalization, and Body Dissatisfaction variables, as well as the moderating effect of ethnicity and acculturation on these relationships were analyzed using structural equation modeling methods.

Quality of Indicators. Preliminary steps were taken to examine the quality of each potential indicator by calculating the internal consistency (alpha) for each measure. To date, relatively little research has examined the appropriateness of using the many of instruments assessing eating disorder pathology in ethnic minority populations, thus alphas for each measure were calculated separately for the European American and African American samples.

Descriptive Information. Univariate analyses of variance (ANOVAs) were conducted to detect significant differences across ethnic groups on age and BMI. Additionally, ANOVAs were conducted to detect significant differences between the three groups on the indicators for each latent variable, and between the African American participants in the HCBU and PWCU groups on measures of acculturation.

Structural Modeling Analyses. Structural modeling was conducted using a two-step approach as described by Anderson and Gerbing (1988). First, the measurement model was tested with all the participants to determine if the data fit the proposed model with the latent dimension of media exposure influencing awareness of sociocultural attitudes, in turn, influencing internalization, in turn, influencing body dissatisfaction. Next, two additional structural models were tested by running separately the European American and the African American data. Finally, the African American sample was divided by split-half method into low and high scores on the AAAS-R. Two separate models were tested by using Low AAAS-R and High AAS-R scores (see Figures 1 and 2).

The fit of the structural models was evaluated using multiple fit statistics (Hoyle & Panter, 1995; Marsh, Balla, & McDonald, 1988; Thompson & Daniel, 1996). The most commonly used fit statistics are the chi-square statistic, the normed fit index (NFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). For the NFI and CFI, values above .95 are considered a good fit. For the RMSEA, values below .08 and .05 are considered an adequate and a close fit, respectively. Given the skewness associated with a measure of body image dissatisfaction, the Satorra-Bentler scaled chi-square and associated robust standard errors were used to run the analyses (SB: Satorra & Bentler, 1994). To compare fit across the samples, improved fit is indicated by significant drop in the chi-square, lower RMSEA and higher NFI and CFI values. Goodness-of-fit of the individual model parameters was determined by t values, standardized residuals, and modification indices.

Comparisons of individual parameters between the European American and African American groups and the Low AAAS-R and High AAAS-R groups were assessed using *t* tests and 95% confidence intervals (CI).

RESULTS

Quality of Indicators

Internal consistency for the indicators ranged from alpha = .64 to .98. Alpha coefficients for the measures used in the structural model can be found in Table 1 for European American group, Table 2 for African American PWCU group, and Table 3 for African American HBCU group. Cronbach's alpha for the AAAS-R was .88 in the African American PWCU group and .89 in the African American HBCU group.

Overall the correlation matrix of the indicators suggested convergent validity for measures within constructs and discriminant validity between constructs. That is, indicator intercorrelations were higher for indicators within than between latent variables, with this pattern of results being clearer for African American than for European American participants (see Tables 1-3).

Descriptive Statistics

Descriptive information and mean differences for Media Exposure for the samples are presented in Table 4. Univariate analyses of variance (ANOVAs) indicated significant differences across the three groups on age and BMI. Tukey's post hoc tests indicated that the European American group was significantly younger than the two African American groups, which did not differ. However, correlation analyses indicated that age was not significantly associated with any of the indicator measures. Additionally, the HBCU group had significantly higher weight and BMI than the PWCU group, which in turn had a significantly higher weight and BMI than the European American group.

Given the differences in age and BMI, the rest of the ANOVAs were conducted using age first, and then BMI as covariates of each respective dependent variable. Age was not significantly associated with any of the variables, whereas BMI was significantly associated with all the indicators measuring eating disorder psychopathology. In all of the analyses, the higher the BMI the greater the eating disorder symptomatology. Thus, comparisons across groups for the eating disorder measures are presented using the analyses that included BMI as a covariate.

Awareness of Sociocultural Norms

As seen in Table 5, one-way ANOVAs indicated that on the SATAQ-A, the European American group reported significantly higher awareness of sociocultural norms than the HBCU and PWCU groups, which did not differ from each other. However, on the SEA, the European American group reported significantly higher recognition of the importance of attractiveness in society than the PWCU group, which in turn reported significantly higher recognition of attractiveness in society than the HBCU group.

Internalization of Appearance Standards

As seen in Table 6, ANOVAs indicated that on the SATAQ-I and MMIS-I, the European American group reported higher internalization of appearance standards than the PWCU and HBCU groups, which did not differ from each other. Also, the HBCU group reported significantly higher investment in appearance than the European American and PWCU groups, which did not differ from each other. No differences were

found on the MBSRQ, which measures one's personal investment in physical appearance.

Body Dissatisfaction/Eating Disorder Symptomatology

As seen in Table 7, ANOVAs indicated the European American group reported wanting to be thinner (BIA) , greater body shape concerns (BSQ), lower satisfaction with body parts (BES), and higher eating disorder symptomatology (EAT), and greater body image disturbance or bulimic symptoms (BULIT-R) than the PWCU and HBCU groups, which did not differ from each other.

Acculturation

As seen in Table 8, Univariate ANOVAs indicated no significant differences between PWCU and HBCU groups on the subscales or total score of the AAAS-R. The PWCU and HBCU groups were also compared to the normative sample (n=520) used by Landrine and Klonoff (2000). The three groups did not differ from each other in health beliefs and practices, family practices, or total AAAS-R scores. Both the PWCU and HBCU groups reported significantly higher on the religious beliefs and practices and family values subscales than the normative sample. However, the PWCU and HBCU groups reported significantly lower interracial attitudes, cultural superstitions, and segregation experiences than the normative sample.

Measurement Model

Fifty-six participants were excluded due to omitting at least 10% of the items on any indicator for the latent variables used in the structural model. Thus, 390 participants (263 European American participants and 127 African American participants) were

included in the overall measurement model. The total score from the MMIS-IF subscale was partialed by split-half and used as indicators of the latent Media Exposure variable. Total scores of the SATAQA subscale and the SEA were used indicators of the latent Awareness variable. Total scores of the SATAQI subscale, MBSRQ, ASI, and MMIS-IN subscale were used as indicators of the latent Internalization variable, while total scores of the BIA, BSQ, and BES were used as indicators of the latent variable Body Dissatisfaction. The structural model was estimated using the covariances of these indicators.

The results of the measurement model are presented in Table 9. All goodness of fit indices supported the hypothesized model with exposure, awareness, internalization, and body dissatisfaction. The final measurement model was examined further to determine overall fit. Squared multiple correlations (the amount of variance accounted for in each variable) ranged from .11 to 1.02. Confidence intervals (+/- 2 standard errors) between the dimensions were examined as Anderson and Gerbing (1988) noted that discriminant validity can be further established if the confidence interval around the correlation estimate between two factors does not include 1.0 None of these confidence intervals included 1.0, thus further supporting the discriminant validity between the constructs. The final measurement model with the standardized parameter estimates is presented as a structural diagram in Figure 3 and the parameter estimates for the phi matrix with standard errors is presented in Table 10.

Structural Models

Table 9 presents the fit indices for the five models tested. All indices indicated that the data fit the models adequately and did not differ statistically from each other. That is, although the fit indices were slightly better for the African American sample, the chi square difference between the European American and African American sample was not statistically different from each other. The results of the overall model, as well as the separate models for the European American and African American samples are summarized as structural diagrams in Figures 2 -4. All models provided a good fit for the data in support of the sociocultural model of eating disorders tested.

Ethnicity as a Moderator. Table 11 includes the path loadings and their 95% CI, including a *t* test for each path and a *t* test comparing each path loading across the African American and European American groups. Overall, the loadings of the path between exposure and awareness were large (β = .41 to .46), the loadings of the path between awareness and internalization were large (β = .66 to .72), and the loadings between internalization and eating disorder symptoms were large (β = .53 to .75). The only statistically significant difference between groups was for the path between internalization and body dissatisfaction. These results suggest that although the relationships between media exposure and awareness of sociocultural standards of thin ideal, as well as the relationship between the latter variable and internalization of those ideals are similarly associated in African American and European American college women, the internalization of those ideals do not influence the development of eating

disorder symptoms as strongly in African American as in European American participants.

Acculturation as a Moderator in African Americans. Table 12 includes the path loadings and their 95% CI, including a *t* test for each path and a *t* test comparing each path loading across the African American and European American groups. Overall, the loadings of the path between exposure and awareness were small to large (β = .19 to .47), the loadings of the path between awareness and internalization were large (β = .48 to .55), and the loadings between internalization and eating disorder symptoms were large (β = .42 to .66). The only statistically significant differences between groups were for the path between media exposure and awareness and the path between internalization and body dissatisfaction. These results indicate a significantly stronger relationship between media exposure and awareness of sociocultural standards of thin ideal among African American women with high AAAS-R scores, while the relationship between awareness of sociocultural standards and internalization of those ideals are similarly associated in African American with high and low AAAS-R scores. However, the internalization of those ideals do not influence the development of eating disorder symptoms as strongly in African American reporting high AAAS-R scores as do women reporting low AAAS-R scores.

SUMMARY AND DISCUSSION

These findings add to the current body of knowledge about the influence of ethnicity and sociocultural norm on body dissatisfaction. Although previous research has investigated the relationship of media exposure to eating disorder symptomatology through tests of mediating mechanisms (e.g., Stice, 1994), this is the first study to investigate whether or not these effects could be moderated by ethnicity within African American females. Further, this study is the first to include large numbers of African American females from both predominantly white and historically black colleges and universities.

Mean comparisons between the groups revealed that European American women were more aware of sociocultural standards of thinness and had internalized these standards to a greater extent than African American Women, particularly for those standards that relate to body shape and size. This may explain why the African American women in this study were heavier than European American women, and yet African Americans were more satisfied with their body image and reported lower levels of eating disorder symptomatology. Interestingly, whenever differences between the two African American groups emerged, these indicated that proximity to European American culture diminished differences between African American and European American women. That is, African American women from a traditionally Black college had larger BMI and thin-ideal awareness than African American women from a traditionally White college.

In this study the sociocultural model of eating disorders was investigated by testing whether ethnicity and acculturation served as protection from awareness and

internalization of sociocultural standards of thinness, and body dissatisfaction. The relationships between media exposure and awareness, and between awareness and internalization, and between internalization and body dissatisfaction were positive, and the separate structural models provided further support for these effects. Results also supported the role of ethnicity as a moderator between internalization and body dissatisfaction. The relationship between internalization and body dissatisfaction was stronger for European American women than for African American women, while the relationships between media exposure and awareness, and awareness and internalization were similar across both groups. Results also supported the role of acculturation as a moderator between media exposure and awareness and between internalization and body dissatisfaction in African American women.

These findings are consistent with previous research investigating the role of sociocultural variables on body dissatisfaction and eating pathology (see Fingeret & Gleaves, 2001; Stice, 1994; Stice, Spangler, & Agras, 2001; Twamley & Davis, 2003), as well as the finding that social pressure and thin-ideal internalization are the strongest proximal indicator of the onset of eating disorder related attitudes and behavior (The McKnight Investigators, 2003). Further, although this study did not provide support for the hypothesis that ethnicity serves as a protective mechanism against internalization of sociocultural appearance standards, the findings suggested that internalization of such standards do not have as much of an impact in African American as in European American women (cf., Warren et al., 2005).

The present results suggest that media messages influence African American women as much as European American women with respect to awareness and internalization of the messages. However, African American Women reported less absolute awareness levels of the thin ideal than European American women. This is understandable given that awareness of the thin ideal may come from multiple sources in addition to media exposure (e.g., peer pressure). Thus, it is possible that European American women might be influenced more by other sources of influence than African American women. Nonetheless, differences in awareness were small and seemed nonfunctional, as the influence between awareness and internalization was similar between the groups and the groups did not differ with regards to thin-ideal internalization levels.

Finally, although the present data cannot say why internalization of thin ideal was not as strongly associated in African American women as in European American women, the data support clearly that internalization of the thin-ideal is less of a problem for the former than the latter. It is possible that internalization of other values related to body image and body size exist in parallel along with the thin-ideal standard. That is, African American women may receive and internalize information about other body-shape ideals that compete with the thin-ideal to a greater extent than European American women. These hypothesized parallel awareness and internalization of alternate body shapes and sizes may have the effect of canceling the influence of the thin-ideal on the expression of eating disorder psychopathology.

There are limitations to this study that should be considered. Although the cross-sectional design of the study allows for comparison between groups, no causal inferences can be made. Only longitudinal research can actually demonstrate whether a factor is protective (Warren, et al., 2005). Additionally, the data originate from a sample of convenience. The participants in this study were college-aged women who volunteered to participate in the study. The degree to which these findings can be generalized to women who differ from the sample in age, education, or severity of symptoms (i.e., a clinical sample) warrants further investigation. Further, many of the self report measures have not been previously validated with African Americans. However, the reliability indices associated with the measures, as well as the correlation matrix, suggested that the scores were reliable and valid in the African American samples.

Future research considerations include: (1) testing the suitability of measures of eating disorder pathology and their correlates across ethic minority populations, (2) improving measures of acculturation or other constructs to more accurately capture more reliable scores for specific emotional or behavioral factors believed to be indicative of acculturation, and (3) improving sampling strategies to reflect the general population in terms of age, education, geography, and clinical pathology. Though a complete and thorough understanding of how ethnicity functions to protect against internalization and body dissatisfaction remains elusive, a concerted effort to address eating disorders in the African American community remains warranted.

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APPENDIX

Table 1

Correlation Coefficients and Alphas (on Diagonal) for European American Sample

	MMIS-IF1	MMIS-IF2	SEA	SATAQ-A	SATAQ-I	MMIS-INT	MBSRQ	ASI	BIA	BES	BSQ
1. MMIS-IF1	.92										
2. MMIS-IF2	.96**	.90									
3. SEA	.21**	.18**	.60								
4. SATAQ-A	.33**	.33**	.61**	.75							
5. SATAQ-I	.43**	.43**	.40**	.52**	.86						
6. MMIS-INT	.51**	.49**	.36**	.41**	.81**	.94					
7. MBSRQ	.25**	.25**	.25**	.36**	.47**	.39**	.86				
8. ASI	.34**	.34**	.44**	.48**	.51**	.51**	.43**	.86			
9. BIA	.06	.09	.22**	.28**	.26**	.23**	.11	.26	.N/A		
10. BES	-.22	-.24**	-.21**	-.36**	-.44**	.38**	-.15*	-.43**	-.55**	.88	
11 BSQ	.31**	.32**	.41**	.54**	.66**	.60**	.62**	.60**	.53**	-.74**	.97

Note: MMIS-IF1/MMIS-IF2= Multidimensional Media Influence Scale-Information Subscale (partialed by split-half into two separate indicators); SEA= Societal Emphasis on Appearance Scale; SATAQA= Sociocultural Attitudes Toward Appearance Scale-Awareness Subscale; SATAQI= Sociocultural Attitudes Toward Appearance Scale-Internalization Subscale; MMIS-INT= Multidimensional Media Influence Scale-Internalization Subscale; Shape Questionnaire; MBSRQ= Multidimensional Body Self-Relations Questionnaire; ASI= Appearance Schemas Inventory; BIA= Body Image Assessment; BES= Body Esteem Scale-Weight Concern Subscale; BSQ= Body Shape Questionnaire; No internal consistency is reported for the BIA as it is based on a single item. ** $p < .01$, * $p < .05$

Table 2

Correlation Coefficients and Alphas (on Diagonal) for African American (PWCU) Sample

	MMIS-IF1	MMIS-IF2	SEA	SATAQ-A	SATAQ-I	MMIS-INT	MBSRQ	ASI	BIA	BES	BSQ
1. MMIS-IF1	.94										
2. MMIS-IF2	.93**	.90									
3. SEA	.40**	.18**	.64								
4. SATAQ-A	.14	.33**	.61**	.76							
5. SATAQ-I	.17	.43**	.40**	.52**	.78						
6. MMIS-INT	.19	.49**	.36**	.41**	.81**	.93					
7. MBSRQ	.23	.25**	.25**	.36**	.47**	.39**	.79				
8. ASI	.38**	.34**	.44**	.48**	.51**	.51**	.43**	.85			
9. BIA	.12	.09	.22**	.28**	.26**	.23**	.11	.26	N/A		
10. BES	.07	-.24**	-.21**	-.36**	-.44**	.38**	-.15*	-.43**	-.55**	.92	
11 BSQ	-.03	.32**	.41**	.54**	.66**	.60**	.62**	.60**	.53**	-.74**	.98

Note: MMIS-IF1/MMIS-IF2= Multidimensional Media Influence Scale-Information Subscale (partialed by split-half into two separate indicators); SEA= Societal Emphasis on Appearance Scale; SATAQA= Sociocultural Attitudes Toward Appearance Scale-Awareness Subscale; SATAQI= Sociocultural Attitudes Toward Appearance Scale-Internalization Subscale; MMIS-INT= Multidimensional Media Influence Scale-Internalization Subscale; Shape Questionnaire; MBSRQ= Multidimensional Body Self-Relations Questionnaire; ASI= Appearance Schemas Inventory; BIA= Body Image Assessment; BES= Body Esteem Scale-Weight Concern Subscale; BSQ= Body Shape Questionnaire; No internal consistency is reported for the BIA as it is based on a single item. ** $p < .01$, * $p < .05$

Table 3

Correlation Coefficients and Alphas (on Diagonal) for African American (HBCU) Sample

	MMIS-IF1	MMIS-IF2	SEA	SATAQ-A	SATAQ-I	MMIS-INT	MBSRQ	ASI	BIA	BES	BSQ
1. MMIS-IF1	.91										
2. MMIS-IF2	.94**	.92									
3. SEA	.20	.24*	.71								
4. SATAQ-A	.00	.04	-.04	.73							
5. SATAQ-I	.07	.07	.16	.39**	.83						
6. MMIS-INT	.28**	.27*	.39**	-.13	.03	.95					
7. MBSRQ	.32**	.30**	.11	-.13	-.04	.27*	.70				
8. ASI	.31**	.26*	.48*	-.18	.08	.54**	.29**	.85			
9. BIA	-.06	-.06	.08	-.07	-.11	.11	.05	.08	.N/A		
10. BES	-.12	-.07	-.19	.04	-.05	-.41**	-.08	-.32**	-.42**	.89	
11 BSQ	.17	.17	.12	.01	.13	.61*	.16	.43**	.30**	-.71**	.97

Note: MMIS-IF1/MMIS-IF2= Multidimensional Media Influence Scale-Information Subscale (partialed by split-half into two separate indicators); SEA= Societal Emphasis on Appearance Scale; SATAQA= Sociocultural Attitudes Toward Appearance Scale-Awareness Subscale; SATAQI= Sociocultural Attitudes Toward Appearance Scale-Internalization Subscale; MMIS-INT= Multidimensional Media Influence Scale-Internalization Subscale; Shape Questionnaire; MBSRQ= Multidimensional Body Self-Relations Questionnaire; ASI= Appearance Schemas Inventory; BIA= Body Image Assessment; BES= Body Esteem Scale-Weight Concern Subscale; BSQ= Body Shape Questionnaire; No internal consistency is reported for the BIA as it is based on a single item. ** $p < .01$, * $p < .05$

Table 4

Descriptive Information by Ethnic Group

	European-American	African-American HBCU	African American PWCU	*F*	*p*
Age (years)	$18.39\ (.93)_a$	$20.79\ (3.96)_b$	$20.41\ (2.29)_b$	55.43	<.01
BMI	$22.45\ (3.53)_a$	$27.14\ (7.43)_b$	$24.72\ (6.19)_c$	31.39	<.01
MMIS-IF	$30.0\ (8.91)_a$	$30.4\ (10.27)_a$	$28.6\ (10.56)_a$	2.22	.110

Note: MMIS-IF= Multidimensional Media Influence Scale Information Subscale. Means in the same row that do not share subscripts differ at $p < .05$ on Tukey's honestly significant comparison.

Table 5

Mean Differences for Awareness of Sociocultural Norms by Ethnic Group

	European-American	African-American PWCU	African American HBCU	*F*	*p*
SATAQ-A	42.4 $(5.73)_a$	40.0 $(8.01)_b$	36.8 $(7.79)_b$	27.75	<.001
SEA	42.6 $(4.25)_a$	40.6 $(6.22)_b$	38.13 $(6.13)_c$	31.39	<.001

Note: SATAQ-A= Societal Attitudes Towards Appearance Questionnaire-Awareness Subscale; SEA= Societal Emphasis on Appearance Scale. Means in the same row that do not share subscripts differ at $p < .01$ on Tukey's honestly significant comparison.

Table 6

Mean Differences for Internalization of Appearance Standards by Ethnic Group

	European-American	African-American PWCU	African American HBCU	*F*	*p*
SATAQ-I	33.2 (6.54)$_a$	24.2 (7.40)$_b$	25.5 (8.39)$_b$	67.05	<.001
MMIS-I	45.8 (12.49)$_a$	31.2 12.37)$_b$	34.1 (14.97)$_b$	49.58	<.001
MBSRQ	39.1 (7.84)$_a$	39.2 (6.87)$_a$	39.9 (6.47)$_a$	.484	.617
ASI	36.3 (9.41)$_a$	34.0 (9.43)$_a$	36.8 (9.79)$_a$	1.82	<.041

Note: SATAQ-I= Societal Emphasis Towards Appearance Questionnaire-Internalization Subscale; MMIS-I= Multidimensional Media Influence Scale-Internalization subscale; MBSRQ= Multidimensional Body Self Relations Questionnaire; ASI= Appearance Schemas Inventory. Means in the same row that do not share subscripts differ at p <.01 on Tukey's honestly significant comparison.

Table 7

Means, (Standard Deviations) and Statistical Tests for Body Dissatisfaction by Ethnic Group with BMI as a Covariate

	European-American	African-American PWCU	African American HBCU	*F*	*p*
BIA	1.46 $(1.62)_a$	0.72 $(1.79)_b$	0.48 $(1.68)_b$	14.8	<.001
BSQ	103.1 $(38.33)_a$	71.5 $(39.1)_b$	76.1 $(39.0)_b$	25.4	<.001
BES	26.7 $(8.25)_a$	33.9 $(10.40)_b$	33.6 $(9.77)_b$	32.9	<.001

Note: BIA= Body Image Assessment; BSQ= Body Shape Questionnaire; BES= Body Esteem Scale-Weight Concern Subscale; Means in the same row that do not share subscripts differ at $p < .01$ on Tukey's honestly significant comparison.

Table 8

Mean Differences for the African-American Acculturation Scale, Revised by School

Subscale	Number of Items	Score Range Possible	Normative Sample	African American (PWCU)	African American (HBCU)
Religious Beliefs and Practices	10	10-709	51.94 (12.75)$_a$	59.52 (12.38)$_b$	62.36 (8.04)$_b$
Preferences for Things African American	9	9-63	44.43 (11.54)$_a$	47.55 (11.68)$_a$	47.02 (11.26)$_a$
Interracial Attitudes	7	7-49	30.78 (8.84)$_a$	25.43 (9.80)$_b$	24.84 (10.37)$_b$
Family Practices	4	4-28	15.26 (6.62)$_a$	15.90 (7.12)$_a$	14.78 (7.84)$_a$
Health Beliefs and Practices	5	5-35	22.10 (6.57)$_a$	23.32 (6.17)$_a$	24.06 (6.36)$_a$
Cultural Superstitions	4	4-28	16.82 (6.06)$_a$	14.43 (6.83)$_b$	17.06 (6.97)$_a$
Racial Segregation	4	4-28	18.57 (5.91)$_a$	14.45 (7.03)$_b$	15.43 (7.92)$_b$
Family Values	4	4-28	19.69 (4.94)$_a$	22.54 (5.05)$_b$	22.05 (4.90)$_b$
Total AAAS-R	47	47-329	220. 46 (40.88)$_a$	222.51 (37.77)$_a$	228.38 (38.07)$_a$

Note: The data in columns 1-4 are from " Revising and Improving the African American Acculturation Scale," by E.A. Klonoff and H. Landrine, 2000, *Journal of Black Psychology,26,* Copyright 2000 by the Association of Black Psychologists. Means in the same row that do not share subscripts differ at $p < .01$ on Tukey's honestly significant comparison.

Table 9

Goodness of Indices for Structural Models

Model	χ^2 (df)	$\Delta \chi^2$ (df)	*p*	Index RMSEA	NFI	CFI
1	120.25 (41)		<.001	.070	.96	.97
2	130.17 (41)		<.001	.091	.94	.96
3	34.64 (41)		.75	0.0	.95	1.00
2 - 3		95.53 (41)	.80	-.91	-.01	-.04
4	30.17 (41)		.89	0.0	.91	1.00
5	37.17 (41)		.64	0.0	.90	1.00
4-5		-7.0 (41)		0	.01	0

Note: Model 1= Overall Model; Model 2= European American Sample; Model 3= African American Sample; Model 4= Low AAAS-R Scores; Model 5= High AAAS-R Scores; RMSEA= Root Mean Square Error of Approximation; NFI= Normed Fit Index; CFI= Comparative Fit Index

Table 10

Correlations Among Latent Variables (Phi Matrix with Standard Errors)

	Exposure	Awareness	Internalization	Body dissatisfaction
Exposure	----------			
Awareness	.43	----------		
Internalization	.29	.69	----------	
Body Dissatisfaction	.20	.47	.68	----------

Table 11

Path Loadings and Associated Statistics for European American and African American Participants

	Media Exposure-Awareness			Awareness-Internalization			Internalization-Body Dissatisfaction		
	β	*t*	CI	β	*t*	CI	β	*t*	CI
European American (*df* = *262*)	.41	5.21**	.31-.50	.72	6.38**	.54-.90	..75	7.15**	.67-.83
African American (*df = 126*)	.46	4.63**	.30-.62	.66	5.07**	.41-.91	.53	3.45**	.47-.59
Between Group's Comparison (*df*=389)		0.90			0.38			4.40**	

Note: * $p < .05$; ** $p < .001$.

Table 12

Path Loadings and Associated Statistics for African American Participants by Acculturation

	Media Exposure-Awareness			Awareness-Internalization			Internalization-Body Dissatisfaction		
	β	*t*	CI	β	*t*	CI	β	*t*	CI
High Acculturation (*df = 41*)	.57	5.24**	.31-.50	.48	6.38**	.54-.90	.42	7.15**	.67-.83
Low Acculturation (*df = 41*)	.19	1.47	-.01.-39	.55	3.97**	.2-.9	.66	3.36**	.60-.72
Between Group's Comparison (*df= 82*)		2.39**			.275			5.71**	

Note: * $p < .05$; ** $p < .01$

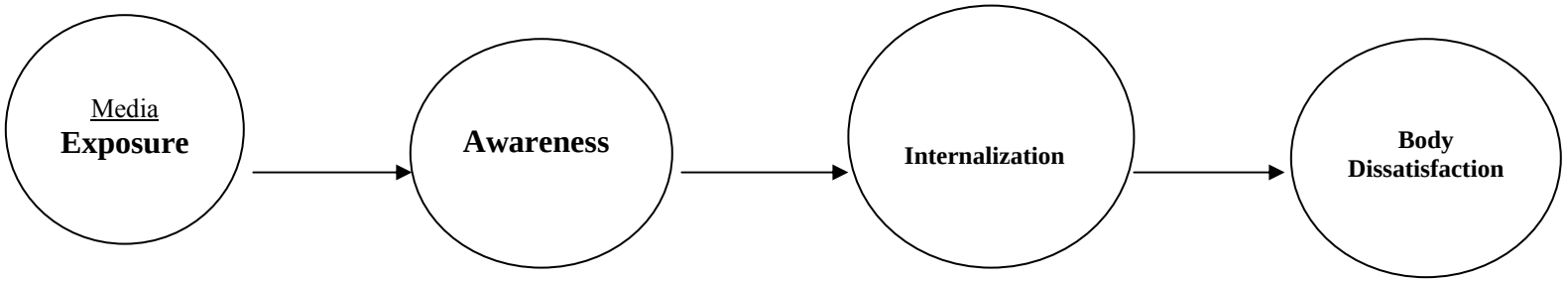

Figure 1A: Hypothesized Relationship Between Media Exposure, Awareness, Internalization, and Body Dissatisfaction

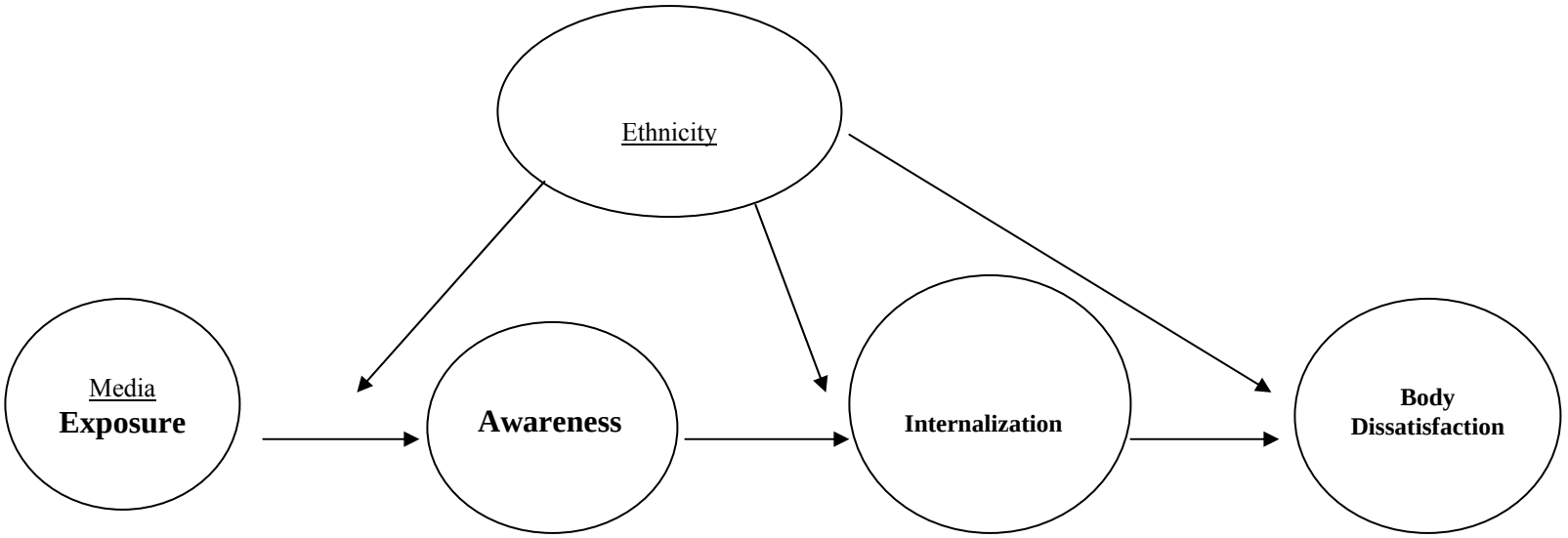

Figure 1B: Ethnicity as a Moderating Variable in the Media Exposure/Awareness/Internalization/Body Dissatisfaction Model

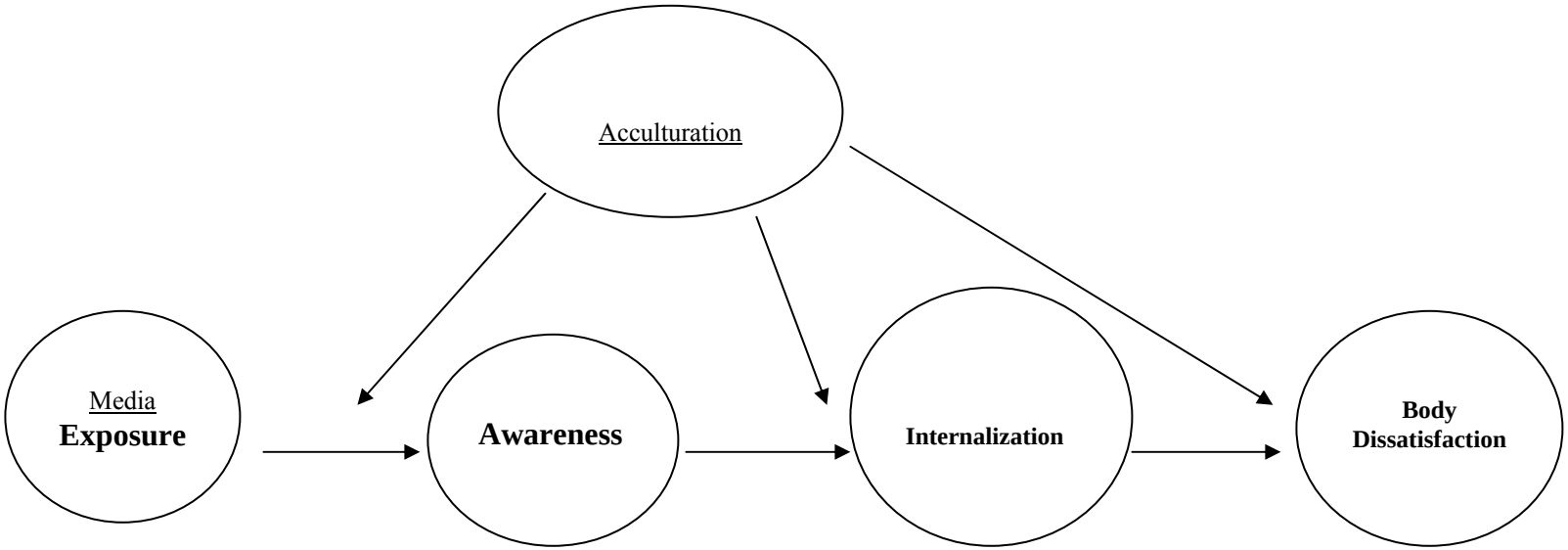

Figure 2: Acculturation as a Moderating Variable in the Media Exposure/Awareness/Internalization/Body Dissatisfaction Model in African American Women

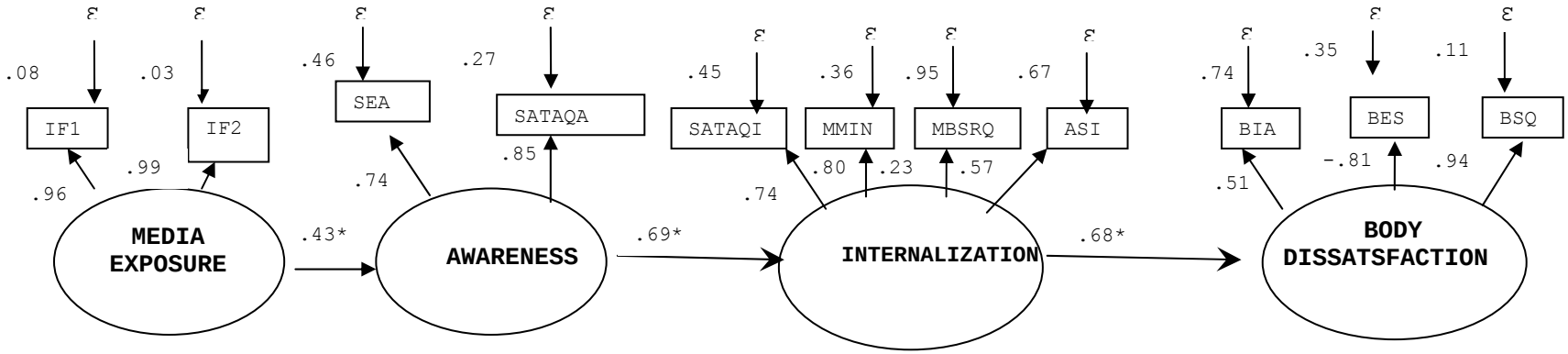

Figure 3: Measurement Model for Media Exposure, Awareness, Internalization, and Body Dissatisfaction (all paths between latent variables are statistically significant)

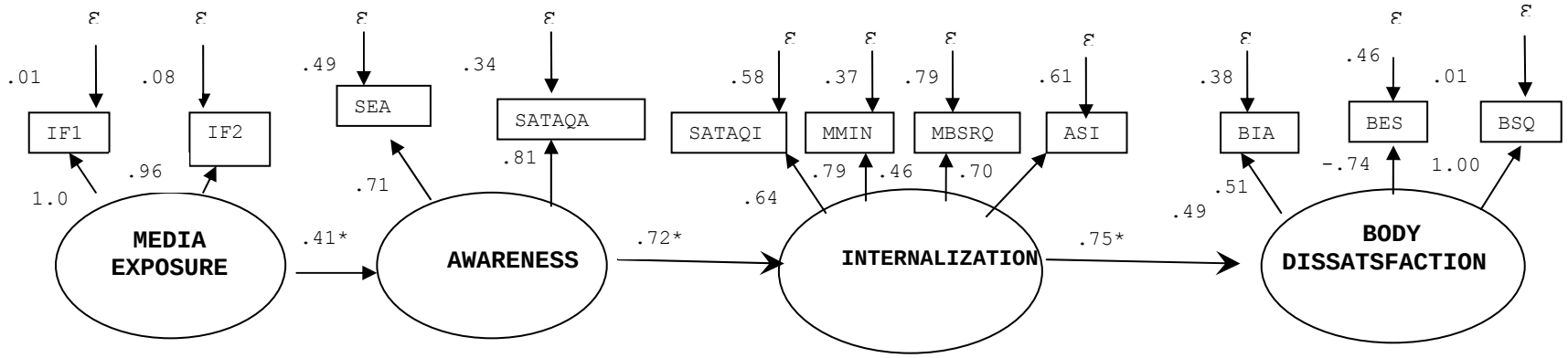

Figure 4: Structural Model for Media Exposure, Awareness, Internalization, and Body Dissatisfaction for European American Sample (all paths between latent variables are statistically significant).

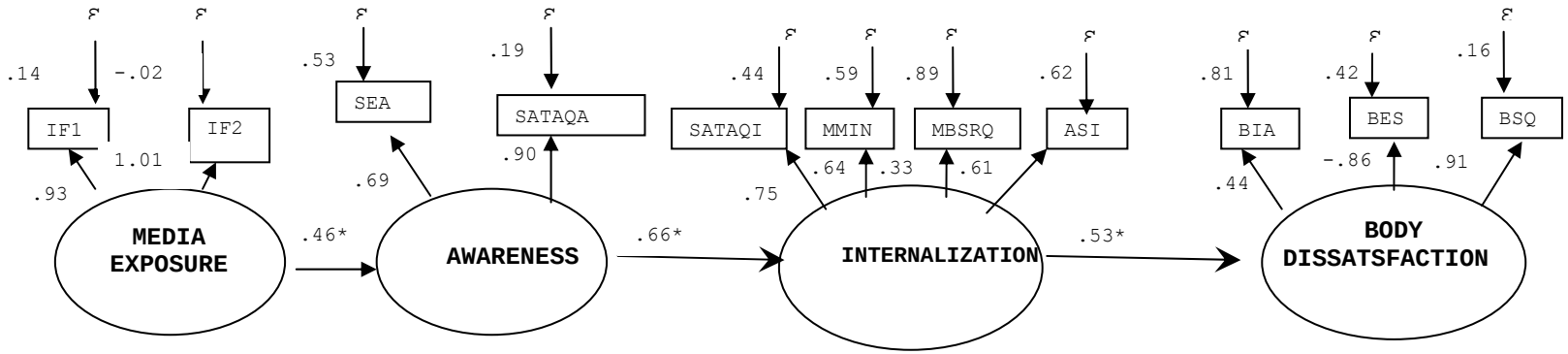

Figure 5: Structural Model for Media Exposure, Awareness, Internalization, and Body Dissatisfaction for African American Sample (all paths between latent variables are statistically significant

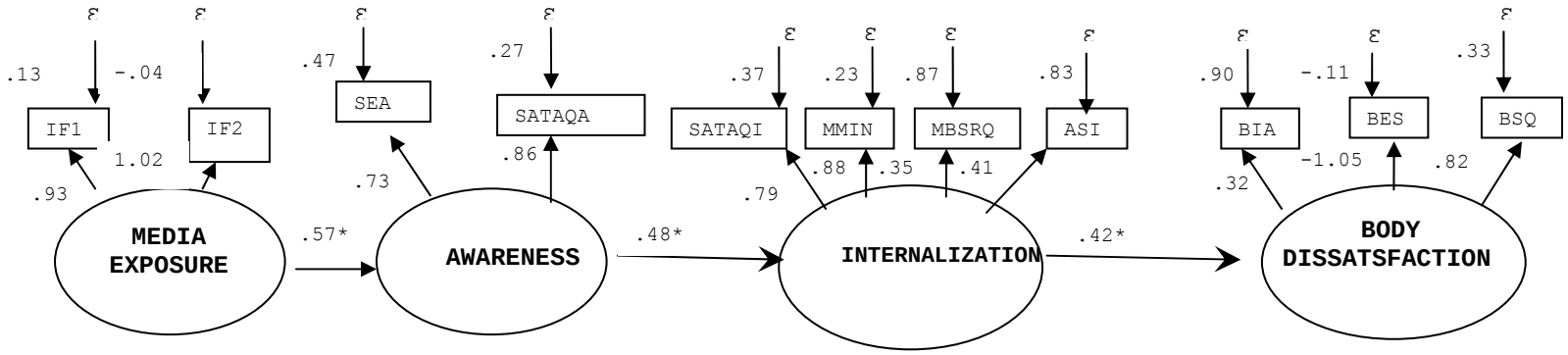

Figure 6: Structural Model for Internalization and Body Dissatisfaction for High-Acculturation in African Americans

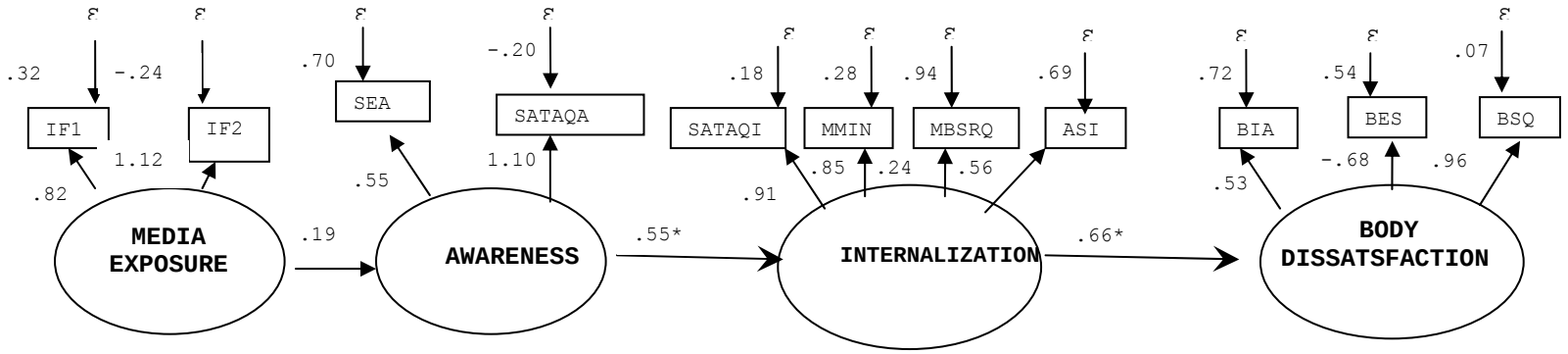

Figure 7: Structural Model for Internalization and Body Dissatisfaction for Low-Acculturation in African Americans

VITA

Name: Keisha Denythia Henry

Address: P.O. Box 1126, Jacksonville, AR 72078

Email Address: keisha_henry@yahoo.com

Education: B.S. Psychology, Texas A&M University 1997

M.S. Psychology, Texas A&M University, 2001

Ph.D. Psychology, Texas A&M University, 2005